



Division of Fisheries & Wildlife

Wayne F. MacCallum, *Director*

February 14, 2002

Dear Massachusetts Coastal Waterbird Cooperator:

Enclosed please find copies of the 2001 census reports for Piping Plovers and for terns, Laughing Gulls, and Black Skimmers in Massachusetts. (Can you believe we actually completed both of these reports before the birds returned for the 2002 breeding season?!). Please note that these reports can also be accessed via the Natural Heritage and Endangered Species Program web site: www.state.ma.us/dfwele/dfw/nhesp.

Our sincere thanks to all of you who participated in coastal waterbird monitoring and protection efforts in Massachusetts last year. A special thanks to all who contributed data for these reports.

Sincerely,

A handwritten signature in cursive script, reading "Brad Blodget".

Bradford Blodget,
State Ornithologist

A handwritten signature in cursive script, reading "Scott Melvin".

Scott Melvin, Ph.D.,
Senior Zoologist

A handwritten signature in cursive script, reading "Carolyn Mostello".

Carolyn Mostello,
Wildlife Biologist



Natural Heritage & Endangered Species Program

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An Agency of the Department of Fisheries, Wildlife & Environmental Law Enforcement
<http://www.state.ma.us/dfwele/dfw/nhesp>



Division of Fisheries & Wildlife

Wayne F. MacCallum, *Director*

Massachusetts Tern Inventory 2001

Bradford G. Blodget, *State Ornithologist*

Overview

During the 2001 season, nesting terns were reported from 73 sites out of an aggregate total of approximately 115 sites reported active in at least one year from 1970 through 2000. The expansion in Common Tern numbers resumed in 2001, after a 6% reversal last year. Estimated numbers of Common Terns increased 8% from a year earlier to 14,378 pairs, yet another modern record since careful recordkeeping began in 1970. This attainment may be viewed against a 20th Century backdrop of peak estimates of 30-40,000 pairs in the 1930s, 15-20,000 pairs in the 1950's, and low estimates of 4-5,000 pairs as recently as 1977-78. Least Terns experienced an all time record year, with estimated numbers up 5% to 3,420 pairs, just edging ahead of the 1999 record 3,416 pairs. Unfortunately, estimated Roseate Tern numbers, after a brief emergence above the 2,000 pair level last year, fell back some 20% in 2001 to 1,697 pairs, erasing 3 years of strong gains. Laughing Gulls, extending the strong upward trend of the last two seasons, rose 21% to an estimated 1,322 pairs, approaching a modern record of 1,356 pairs established in 1989. Arctic Terns and Black Skimmers continued at trace levels.

Weather conditions were generally benign this season, with high tides claiming the usual compliment of low-lying nests. Predation, however, seemed to be more widespread in 2001 and *canid*---especially coyote---harassment and predation reached epidemic proportions. Virtually no site escaped some predation and the impacts were devastating at many locations. Continuing fox predation precluded any chance of recolonization at Plymouth Beach. All productivity was essentially snuffed-out at Gray's Beach, Yarmouth (coyotes, Black-crowned Night-Herons), Nauset-New Island, Eastham/Orleans (coyotes, crows) and at Nauset-Eastham (coyotes). Large Least Tern nesting groups at Dunbar Point (Kalmus), Barnstable and at Sylvia State Beach, Oak Bluffs---among other sites---were plagued by gulls, especially Great Black-backed Gulls, taking chicks. In addition, "canids" destroyed many nests at Kalmus. Fortunately, the 3 largest Common Tern colonies---Monomoy-South, Chatham, Bird Island, Marion and Ram Island, Mattapoisett---which in the aggregate accounted for 11,833 pairs (82.3%) of Common Terns and nearly 100% of the Roseate Terns in the state---reported at least fair to good production (both species: 1-1.2 chicks/pair) Yet even these "flagship" colonies endured attrition by coyotes, gulls, Great Horned Owls and Black-crowned Night-Herons in various combinations.

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One might expect that after 30 years of careful recordkeeping, we would have all the nesting stations essentially "found". Yet, while we have clearly discovered the important sites, birds continue to be discovered at "new" sites. This year field observers discovered B-period nesting terns at two stations: a place mysteriously dubbed "Fernando's Fetch"---essentially an elevated sandbar in Muskeget Channel---and Mink Meadows, Tisbury. The latter site is a small barrier beach just to the northeast of Tashmoo.

A large, loosely coordinated consortium of individuals, and private and governmental agencies continues to be the backbone of Piping Plover and tern colony management and monitoring in the Commonwealth. Many agencies monitor multiple sites and are engaged in large projects. The U.S. Fish & Wildlife Service's Avian Diversity Program at Monomoy National Wildlife Refuge entered its sixth year in 2001. Common Tern numbers there, partly fueled by the collapse of the Plymouth Beach colony, have soared. Rising another 13% this year to an estimated 7,807 pairs, The Monomoy-South colony carried 54.2% of the entire state's population, up from 51.7% a year earlier. Roseate Terns have not joined the Monomoy colony in hoped-for numbers, but rather have persisted in trace numbers (max. 27 pairs in 1999).

In the meantime, strong production stemming from Monomoy should foster recolonization and drive growth at new sites, including those where aggressive Common and Roseate Tern restoration efforts are currently underway. Two of these sites include *MassWildlife's* project at Penikese Island, Gosnold (initiated in 1998 after pilot work in 1995) and a new project begun in 2000 at Muskeget Island, Nantucket by The Nature Conservancy, with additional funding support from the Blake Fund and other private sources. Roseate Terns have not yet joined nesting Common Terns in these restoration "work-in-progress" sites, but are likely to do so at any time. Encouraging Common Tern increases were 121% at Penikese (278 vs. 126 pairs) and 325% at Muskeget (68 vs. 16 pairs). Just to our north at Seavey Island, New Hampshire, another noteworthy restoration effort, guided by the Audubon Society of New Hampshire, has met with good results. Common Tern numbers there reached the 500 pair level and a nesting pair of Roseate Terns was discovered in the colony in 2001.

General Methodology

Censusing of terns in Massachusetts is accomplished using "pairs" as the basic census unit. Generally, complete nest counts are made, corrected at some sites using the Lincoln Index. At a few sites, pair estimates may be extrapolations based on partial nest counts or adult estimates adjusted to pairs by multiplying by 0.8. Where nest counts are made, only nests containing eggs are counted and the number of nests is converted to pairs on a 1:1 ratio. *Estimates of the number of pairs reported and discussed in this summary, unless otherwise noted, are "A-period" estimates made during a standard window from 5-20 June inclusive. "B-period" estimates, as sometimes referenced herein, are estimates made later than the "A-period" counts and are not included in the total pair estimates for the state.*

Common Tern

Common Tern numbers, after dropping 6% in 2000 to an estimated 13,340 pairs, rebounded 8% in 2001 to reach a new modern high of 14,378 pairs at 33 sites. This is the highest estimate recorded since careful record keeping began in 1970. The long string of rising annual estimates recorded since 1993, interrupted last year, thus resumed. While predation in its various forms ravaged and destroyed many of the smaller colonies, three “flagship” colonies---Monomoy-South, Chatham, Bird Island, Marion and Ram Island, Mattapoissett---carried the season.

At Monomoy, estimated numbers grew 13% to 7,807 pairs in 2001, on top of 26% and 134% increases in 2000 and 1999 respectively. In 2001, an amazing 54.2% of the state's Common Tern population was domiciled at Monomoy, up from 51.7% a year earlier. The 3 largest colonies harbored an estimated 11,833 pairs or 82.3% of the population in 2001 compared to 81% in 2000.

As in 2000, there were six additional sites reporting ≥ 100 pairs. Included, in order of size were: Gray's Beach, Yarmouth (865 vs. 684 in 2000), Nauset-New Island, Eastham/Orleans (493 vs. 997), Penikese Island, Gosnold (278 vs. 126), Haystack Point at the Edgartown end of Sengekontacket Pond (224 vs. 140), Dead Neck---Sampsons Island, Barnstable (133 vs. 49) and Woodbridge Island, Newburyport (117 vs. 120). These six colonies accounted for an additional 2,110 pairs or 14.7% of the state total and, in combination with the 3 “flagship colonies”, remarkably accounted for 97% of the state total.

The overall picture of seemingly ever more concentrated nesting cannot continue forever and is cause for concern. However, we must remember two things: (1) terns---indeed most colonial seabirds---are almost by definition, highly social birds, especially during the nesting season and (2) our ability to influence the resulting clumped distribution is quite limited. While the terns' strategy of concentrating reproductive effort in a few large colonies and one supercolony has been successful for a number of years, with consistently good to excellent productivity sustained in the 3 largest colonies, it carries obvious risks and could break down at any time. From a management perspective, it means we must aggressively restore, reserve and protect optimal alternative nesting habitat at as many sites as possible.

Least Tern

In the 2001 nesting season, the estimated population of Least Terns rose 5% to 3,420 pairs, edging just ahead of the 1999 record of 3,416 pairs. Since 1970, out of 28 consecutive years for which records are available, there have been 13 annual increases. From 1997 onward, the population has remained above the 3,000 pair level.

There was an absence of “super colonies” $\geq 1,000$ pairs in 2001, reflecting the broadening distribution pattern noted in 2000. Least Terns nested at 54 sites, up from 50 the previous year

and from 44 sites in 1999. For the third consecutive year, Dunbar Point (Kalmus), Barnstable carried the largest number of pairs at 599 pairs (vs. 817 in 2000).

Seven additional sites, aggregating another 1,651 pairs, held ≥ 100 pairs. These sites included Tuckernuck Island, Nantucket (432 vs. 110 pairs in 2000), Sylvia State Beach, Oak Bluffs (370 vs. 10), Dead Neck-Sampsons Island, Barnstable (257 vs. 383), North River mouth, Scituate (170 vs. 133), Crane Beach, Ipswich (155 vs. 220), Sandy Neck, Barnstable (134 vs. 128) and Norton Beach (Katama), Edgartown (133 vs. 0). Four sites included in this grouping last season (Little Beach, Edgartown; Barney's Joy—Little Beach, Dartmouth; Monomoy-South, Chatham; and Great Island, Wellfleet), dropped out in 2001 and two sites---Norton Beach and Sylvia State Beach---were added. The drop-out group carried an aggregate 175 pairs this year vs. 599 last season, while the two additions contained an aggregate 503 pairs this year vs. a modest 10 last year. This illustrates the extreme variability in year-to-year Least Tern distribution.

Roseate Tern

The estimated number of Roseate Terns fell a sharp 20% in 2001 to 1,697 pairs, down from 2,124 a year earlier. Roseate Terns laid eggs at 4 sites in 2001, the same sites as in 2000. Essentially 100% of the state's Roseate Tern population were in the Buzzards Bay colonies at Bird and Ram Islands. Trace numbers were reported at Nauset-New Island in Eastham/Orleans and at Monomoy-South. At a fifth site, Gray's Beach in Yarmouth, a territorial pair of Roseate Terns was identified, but no nest with eggs was confirmed.

The decline was largely driven by a 37% fall in estimated numbers at Ram Island, Mattapoisett to 626 pairs from 988 a year earlier. The birds did *not* relocate to Bird Island, Marion, as numbers there were down 6% from a year ago to 1,062 pairs. At the third major Roseate Tern colony, Great Gull Island off eastern Long Island, New York, numbers decreased 11%. Falkner Island, Connecticut was down 14 percent. The overall Northeastern Roseate Tern Population was down 14%. It would appear that part of the decline was due to some causation at the metapopulation level. However, the steepness of the decline at Ram Island suggested other factors may have been involved there---including denser vegetation than in 2000, overestimation in the previous year and differences in the census crew makeup---all of which center around the difficulties in finding nests in the dense vegetation at Ram Island. In the larger picture, Roseate Terns are not easy to estimate at any colony and their estimation requires specialized skills.

Other Species

An estimated seven pairs of **ARCTIC TERNS** were found nesting at three sites in the state in 2001, down from eight pairs in 2000. There were three pairs at Nauset-New Island in Eastham/Orleans and two pairs each at Penikese Island, Gosnold and Plymouth Beach. An eighth, late-nesting pair occurred at Plymouth Beach. All of this year's 3 pairs of **BLACK SKIMMERS** were at Nauset-New Island in Eastham/Orleans and their nesting attempts all

failed on account of heavy predation. **LAUGHING GULL** numbers, mirroring increases elsewhere in New England, increased 21% over last year to reach 1,322 pairs (805 at Monomoy-South and 517 at Nauset-New Island). This follows on 36% and 13% increases in 2000 and 1999, respectively, and brings our estimated nesting population up close to the modern high of 1,356 recorded in 1989.

I extend my appreciation and thanks to all the agencies and individuals in the reporting network that make these detailed annual summaries possible. Data collected each season contribute to the historical and scientific record and are incorporated into *MassWildlife's* Natural Heritage Database. It is through this database that records translate into real environmental action by provisions of the Massachusetts Wetlands Protection Act (MGL, Ch. 131, Sect. 40A) and the Massachusetts Endangered Species Act (MGL, Ch. 131A).

Report prepared by BRADFORD G. BLODGET, State Ornithologist, assisted by Carolyn S. Mostello, *MassWildlife*, Field Headquarters, 1 Rabbit Hill Road, Westborough, MA 01581-3337. Tele: (508) 792-7270 x152, 312. Fax: (508)792-7275. 12/01/01.

Table 1. TABULATION OF THE 2001 MASSACHUSETTS TERN INVENTORY. All results expressed in pairs. Data are collected for all species in the period 5-20 June inclusive. Colony numbers follow or are adapted from Erwin and Korschgen (1979). Numbers in parentheses reflect numbers of pairs recorded outside the census period ("B-counts") and are not included in the total pairs. Shaded areas indicate that no nesting activity was found.

COLONY NUMBER	COLONY NAME, TOWN	Censusing Agency	ROST	COTE	ARTE	LETE	BLSK	LAGU
324000	Miscellaneous sites, map 324	---						
324007	Woodbridge I., Newburyport	USFWS		117				
324007.1	Blackwater River Group, Salisbury	---						
324007.2	Chaces I., Newbury	USFWS						
324008	Plum I. River Group, Newbury (marshes-incl. Pine I., Little Pine I. and Jericho Creek)	USFWS		12				
324009	Parker River Group (marshes)	USFWS						
324009.1	Plum I. Beach, Newbury-Rowley-Ipswich	USFWS				16		
324010	Roger I., Ipswich	ECG						
324010.2	Bagwell I., Ipswich	ECG		12				
324010.3	Rowley Salt Marshes	ECG		20				
324010.4	Lords I., Ipswich	ECG		13				
324010.5	Ipswich Salt Marshes	ECG		17				
324011	Crane Beach, Ipswich	TTOR				155		
324038	Tinker's I., Salem	MAS		55				
324038.1	Saugus River Bridge, Lynn-Revere	Zendeh		15				

COLONY NUMBER	COLONY NAME, TOWN	Censusing Agency	ROST	COTE	ARTE	LETE	BLSK	LAGU
324040.1	Mystic River, Everett/Boston	Zendeh		(4)				
324040.3	Belle Isle Marsh, Boston	Zendeh						
324040.6	Central Square Piers, East Boston	Zendeh		92				
324042	Snake I., Winthrop	Zendeh		(2)				
324042.1	Logan Airport, Boston	Smith						
324049.1	Lovell I., Boston	MAS						
324052.2	Rainsford I., Boston	MAS				43		
324053	Hog I. Pier ("Spinnaker I."), Boston	MAS		95				
324057	North R. Mouth, Scituate	MAS		5		170		
324058	Duxbury Beach, Duxbury	MAS				47		
324060	Wood End-Long Point Area, Provincetown	NPS		1		13		
324061	Race Point Light Area, Provincetown	NPS				45		
324062	Race Point CG Station, Provincetown	NPS						
324062.1	Mission Bell, Provincetown	NPS				18		
324062.2	Tasha's Area, Provincetown	NPS				17		
324062.3	Beach Point, Pilgrim Beach, Provincetown	MAS				4		

COLONY NUMBER	COLONY NAME, TOWN	Censusing Agency	ROST	COTE	ARTE	LETE	BLSK	LAGU
324063	High Head, Truro	NPS				37		
352000	Miscellaneous sites, map 352	---		(34) ²		(35) ²		
352001	Plymouth Beach, Plymouth	MAS		8	2 (1)	59		
352001.1	Ellisville Harbor, Plymouth	MAS				2		
352002	N. Sandwich Area (Town Beach-Springhill and Old Harbor Beaches	MAS				28		
352003	Scorton Creek, Sandwich	MAS				10		
352004	Craigville-Long Beach, Barnstable	MAS						
352004.1	Squaw I., Barnstable	MAS						
352005	Dunbar Point (Kalmus Park), Barnstable	MAS				599		
352005.1	Great I., Yarmouth	MAS						
352006	Sandy Neck, Barnstable	Barnstable				134		
352007	Gray's Beach, Yarmouth	MAS	1*	865		51		
352008	West Dennis Beach, Dennis	MAS				35		
352009	Nauset-Orleans (Chatham line north to Nauset Harbor Inlet)	Orleans		(73)		45		
352010	Nauset-New Island, Orleans	NPS	3 (1)	493	3		3	517
352011	Nauset-Eastham("Coast Guard Beach" &	NPS		1		84		

COLONY NUMBER	COLONY NAME, TOWN	Censusing Agency	ROST	COTE	ARTE	LETE	BLSK	LAGU
	"Plover I.")							
352012	Marconi Beach, Wellfleet	NPS				(20)		
352012.1	Pamet Harbor Bar, Truro	MAS				44		
352012.2	Great I.-Jeremy Pt., Wellfleet	NPS		1		46		
352013	Nauset-Chatham (incl. S. Beach I.)	MAS/DFW				25		
352013.1	Tern I., Chatham	MAS						
352014	Harding's Beach and Point ³ , Chatham	MAS						
352015	Monomoy-North, Chatham	USFWS		5				
352016	Monomoy-South, Chatham	USFWS	6 (0)	7,807		16		805
352017	Dead Neck-Sampsons I., Barnstable	MAS		133		257		
352017.1	Popponesset Spit, Mashpee	MAS						
352018	South Cape Beach-Waquoit, Mashpee	DEM		3		6		
352018.1	Washburn I., Falmouth	DEM		2		16		
352020	Great Point (including "The Galls"), Nantucket	TTOR				36		
352021	Coskata-Coatue, Nantucket	NCF				6		
352021.1	Squam Head & Pond, Nantucket	NCF						
352022	Quidnet (including Sesachacha Pd.), Nantucket	MAS						

COLONY NUMBER	COLONY NAME, TOWN	Censusing Agency	ROST	COTE	ARTE	LETE	BLSK	LAGU
352023	Siasconset (Sankaty-Low Beach), Nantucket	NMD NLB				86		
352023.1	Tom Nevers Head, Nantucket	NMD				15		
352024	Quaise, Nantucket	MAS				7		
352025.1	Surfside, Nantucket							
352025.2	Cisco Beach, Nantucket	NCF						
352025.3	Eel Point, Nantucket	NCF				62		
352026	Esther I.-Smith Pt., Nantucket	NMD						
352027	Tuckernuck I., Nantucket	Veit				432		
352028	Muskeget I., Nantucket	Veit		68		(4)		
352030	Cape Poge Elbow, Edgartown	TTOR						
352031	Little Neck, Edgartown	TTOR				30		
352031.1	East Beach-Dike Bridge, Edgartown	TTOR						
352032	Wasque, Edgartown	TTOR				25		
352033	Norton Beach ("Katama"), Edgartown	Dukes Co.				133		
352033.1	Edgartown Great Pd., Edgartown	SMF						
352034	Sarson I., Sengekontacket Pd., Oak Bluffs	MAS						
352034.1	Haystack Pt., Sengekontacket Pd.,	SMF		224				

COLONY NUMBER	COLONY NAME, TOWN	Censusing Agency	ROST	COTE	ARTE	LETE	BLSK	LAGU
	Edgartown							
352034.2	Little Beach, Edgartown	SMF				33		
352035	Sylvia State Beach, Oak Bluffs	Dukes Co.				370		
352035.1	Harthaven Beach, Oak Bluffs	SMF						
352036	Watcha Pd., West Tisbury	SMF						
352036.1	Oyster Pd., Edgartown	SMF				8		
352037	Quansoo Area (Tisbury Great Pond, W. Tisbury & Black Point Pond, Chilmark)	SMF						
352037.2	Chilmark Pd., Chilmark	SMF						
352038	Lobsterville (incl. "Dogfish Bar"), Gay Head	SMF				13		
352038.1	Menemsha Pd., Gay Head-Chilmark (encompasses Edys I., Chilmark)	SMF						
352038.2	Stonewall Beach, Chilmark	SMF				1		
352038.3	Long Beach, Gay Head & Squibnocket Beach, Chilmark	SMF						
352039	Nomans Land, Chilmark	USFWS						
352040	Tashmoo, Tisbury	SMF				3		
352040.1	Eastville Beach, Oak Bluffs	Dukes Co.						
352040.2	Lamberts Cove-James Pd., W. Tisbury	SMF						

COLONY NUMBER	COLONY NAME, TOWN	Censusing Agency	ROST	COTE	ARTE	LETE	BLSK	LAGU
352040.3	Mink Meadows ⁴ , Tisbury	SMF/MAS				(5)		
352041	Nashawena I., Gosnold	MDFW		7				
352041.1	Pasque I., Gosnold	MDFW				1		
352042	Penikese I., Gosnold	MDFW		278 (42)	2 (0)			
352042.1	Cuttyhunk I., Gosnold	Dukes Co.				24		
352043	Ram I., Mattapoissett	MDFW	626 (75)	1,890 (115)				
352043.1	Strawberry Pt., Mattapoissett	MDFW						
352044	Fish I., Fairhaven	MDFW						
352044.1	Long I., Fairhaven	MDFW						
352044.2	West I., Fairhaven	LCE						
352044.3	Winsegansett Hts., Fairhaven	LCE				3		
352044.5	So. Shore Marshes WMA, Little Bay, Fairhaven	MDFW				25		
352045	Bird I., Marion	MDFW	1,062 (30)	2,136				
352045.1	Salter's Pt. and Pd., Dartmouth	LCE						
352045.2	Demarest Lloyd State Park, Dartmouth	LCE				5		
352046	Barney's Joy-Allen's Pd.-Little Beach, Dartmouth	LCE				80		

COLONY NUMBER	COLONY NAME, TOWN	Censusing Agency	ROST	COTE	ARTE	LETE	BLSK	LAGU
352046.1	Gooseberry Neck, Westport	LCE						
352047.1	Speaking Rock ³ , Westport	LCE						
352048	Cockeast Pd.-Acoaxet, Westport	LCE						
352048.1	Richmond Pd., Westport	RINHP						
352048.2	Horseneck Beach, Westport	LCE						
352054.1	Bay Point, S. Swansea	Waring						
	TOTAL 2001 NESTING PAIRS:		1,697	14,378	7	3,420	3	1,322
	TOTAL 2000 NESTING PAIRS:		2,124	13,340	8	3,267	2	1,097
	PERCENT + (-) FROM 2000:		(20)	8	(13)	5	50	21
	TOTAL 2001 NESTING SITES:		4	33	3	54	1	2

¹ In addition to the names of towns and individuals, the following abbreviations are used: DEM=Massachusetts Department of Environmental Management; DFW=Massachusetts Division of Fisheries & Wildlife (*MassWildlife*); ECG=Essex County Greenbelt Association; LCE=Lloyd Center for the Environment; MAS=Massachusetts Audubon Society-Coastal Waterbird Program; NCF=Nantucket Conservation Foundation; NLB=Nantucket Land Bank; NMD=Town of Nantucket Marine Department; NPS=National Park Service; RINHP=Rhode Island Natural Heritage Program; SMF=Sheriff's Meadow Foundation; TTOR=The Trustees of Reservations; and USFWS=United States Fish & Wildlife Service.

² COTE and LETE found nesting at a new site, "Fernando's Fetch," located in Muskeget Channel at 41° 21.350 N, 070° 20.832 W. Reported by R. Veit.

³ Harding's Beach Point, Chatham and Speaking Rock, Westport were not censused in 2001.

⁴ Mink Meadows, Tisbury is a new tern nesting site in 2001.

*=Pair of ROSTs noted defending a specific site within the colony, but no nest with eggs confirmed; not reflected in totals